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February 7, 2002

Chairman Michael Powell
Commissioner Kathleen Q. Abernathy
Commissioner Michael J. Copps
Commissioner Kevin J. Martin
Federal Communications Commission
445 12th Street SW
Washington DC 20554

Re: ET Docket No. 98-153 -- Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems
Ex Parte Communication

Dear Chairman Powell and Commissioners Abernathy, Copps, and Martin:

Every decade or two, a new technology changes fundamentally how we work and live. I count three in my lifetime: personal computers, wireless phones, and the Internet.

Ultra-wideband is a fourth. It will profoundly alter, for the better, how we function at home, in the workplace, and at recreation. Much as wireless phones cut the cord for voice communication, ultra-wideband will do the same for video, high-quality audio, and all other multimedia, albeit over short distances. For the first time, inexpensive battery-powered wireless devices will interconnect all digitally-based consumer and office equipment at any needed speed. In the office, ultra-wideband will link computers, printers, scanners, copiers, and network access points. At home it will link TV receivers (including multiple HDTV channels), VHS and DVD players and recorders, cable and DBS access points, CD and MP3 players, digital and video cameras, Palm-type devices . . . the list will only grow as manufacturers roll out new products. The collection of cables and connecters and adapters that seem to arrive with every product nowadays will become superfluous. Best of all, my mother will be able to interconnect and enjoy the devices in her home without any help from her engineer son.

Ultra-wideband is an exceedingly safe technology, due largely to the Commission's rulemaking process. XtremeSpectrum respects the interference concerns of other spectrum users.

In response to each substantive filing, we either showed in engineering terms why the concern is unfounded or, in some cases, modified our proposals to reduce emissions limits as needed. For specific safety-related services such as GPS and PCS, we proposed emissions limits well below those in the NPRM, and showed that those afford full protection. (The attached chart reflects XtremeSpectrum's proposed emission mask, as filed in the docket, which fully protects all incumbents for all applications, including indoor, outdoor, and peer-to-peer use.)

The result: *ultra-wideband will be subject to lower emissions limits than any other service or device in the Commission's Rules*. In the most sensitive bands, including GPS, PCS, and the public safety services, ultra-wideband will operate at levels hundreds or thousands of times smaller than permitted *out-of-band* emissions for such ubiquitous products such as PCS handsets, cordless phones, and microwave ovens. In the PCS band, for example, a PCS handset is subject to 10,000 times more interference from another PCS provider's handset leaking across frequency blocks than from an ultra-wideband device. Ultra-wideband is truly a flea-powered device.

Ultra-wideband has two other advantages worth noting here. First, it delivers new capability without taking up new spectrum. Technology cannot make "something out of nothing," but it can make use of something that was not useful before. Thus, ultra-wideband does not create spectrum, as some have said, but rather extracts additional benefits from spectrum that remains fully available for other purposes. And, second, ultra-wideband communications devices consume far less battery power than existing devices at comparable data rates. This will permit, for the first time, wireless interconnection of multimedia content among small, hand-held devices. That is why XtremeSpectrum has so strongly urged approval of communications between battery-operated units, sometimes called "peer-to-peer" operation.

In short, the adoption of ultra-wideband will add new value to the spectrum, and deliver new capability -- not only to the consumer market (which is XtremeSpectrum's primary target), but also to the defense community and to public safety users. The company itself has its roots in the Department of Defense. We met several times with DoD to understand their concerns first-hand, and I am confident that rules are possible that promote both the national security and the UWB industry. The Defense Department users will ultimately benefit from a commercial UWB market that enables companies to thrive, innovate, and deliver lower unit costs. Public safety and safety-of-life applications likewise will be able to exploit engineering supported by a strong consumer UWB industry.

Finally, timing is critical for this start-up industry. Any further delay will have serious negative consequences for the U.S. commercial UWB industry, and could well hand over our hard-won lead to foreign competitors and governments who are eager to displace us, just as they have in licensed wireless technology.

New wireless technologies must pass through the regulatory process. Further delay will hand incumbents a template for derailing these future innovative entrants. The consequence will be a federal approval process that is too costly, too uncertain, and too lengthy for startups and their investors. The economy needs technological innovation to continue advancing; and innovative technologies need a regulatory process whose decisions rest primarily on solid engineering and science.

The record is complete, and ready for the Commission to move forward on the 14th with rules that will allow this exciting technology to compete in the marketplace.

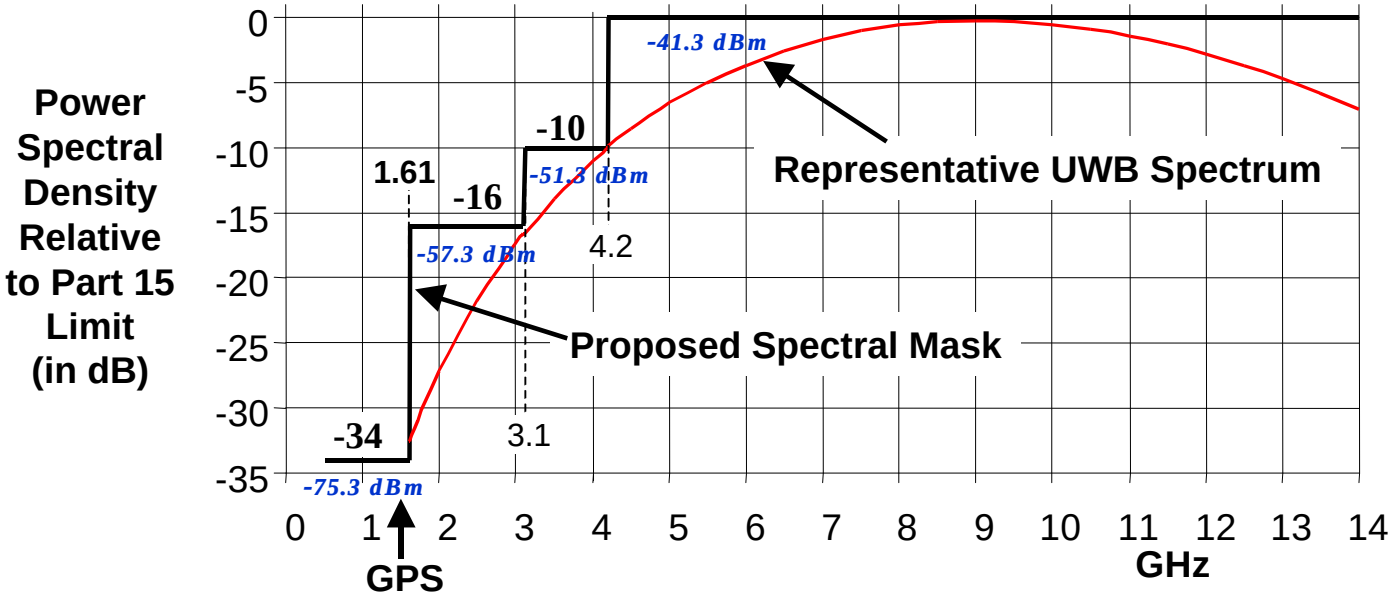
Respectfully submitted,

Martin Rofheart, Ph.D.
CEO, XtremeSpectrum, Inc.

cc: Peter Tenhula, Chairman Powell's Office
Bryan Tramont, Commissioner Abernathy's Office
Paul Margie, Commissioner Copps's Office
Monica Desai, Commissioner Martin's Office
Edmund J. Thomas, Chief, OET
Bruce Franca, Deputy Chief, OET
Julius P. Knapp, Deputy Chief, OET
Michael Marcus, Associate Chief of Technology, OET
William F. Caton, Acting Secretary, FCC (by electronic filing)

XtremeSpectrum Summary

- **XtremeSpectrum proposed UWB levels**



- **These levels are proven safe for all applications**
  - Peer-to-peer, indoor & outdoor, patios and balconies, 2 and 30 meter elevation
  - No intentional emissions below 4.2 GHz (if needed)

- **Key elements of XtremeSpectrum proposed rules**
  - No mast or pole mounted UWB devices
    - Devices are indoors, on a patio or rooftop or on the ground
    - UWB will go where computers go—and must be safe!
  - No automatic peer-to-peer
    - Must be deliberately initiated by the user

- **NTIA protection criteria satisfied**
  - Only NTIA criteria used
  - All NTIA supplied data, measurements & methodologies accepted
  - NTIA used Interference/Noise (I/N) criteria from ITU-R
    - Widely accepted ITU-R Recommendation
    - I/N criteria for radionav vetted in ITU-R SG 8 and accepted by FAA
  - U.S. government radar system siting policies accepted